

REMARKS

Claims 15–25 are pending in this application. By this Amendment, claims 15–24 are amended, and claim 25 is added. Support for the amendments to the claims may be found, for example, in the original claims and specification. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Written Description Rejection under 35 U.S.C. §112, First Paragraph

The Office Action rejects claim 15 under the written description requirement of 35 U.S.C. §112, first paragraph. By this Amendment, claim 15 is amended to delete the recitation of "derivatives." Corresponding amendments are made in claims 18, 19, and 24. Reconsideration and withdrawal of the rejection are respectfully requested.

II. Rejections under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claims 18, 19, 21, and 23 as being indefinite under 35 U.S.C. §112, second paragraph. By this Amendment, these claims are amended to obviate the rejections. Accordingly, reconsideration and withdrawal of the rejection are requested.

The other claim amendments are made to correct other informalities not specifically identified in the Office Action.

III. Rejections Under 35 U.S.C. §103

A. Andrieux in view of Nicolaou

The Office Action rejects claims 15–21, 23, and 24 under 35 U.S.C. §103(a) over Andrieux et al., Genes & Development 16:2350–64 (2002) ("Andrieux") in view of WO 99/67252 to Nicolaou et al. ("Nicolaou"). Applicants respectfully traverse the rejection.

Andrieux provide a study revealing a role of the STOP protein in synaptic transmission and the involvement of a deficiency of this protein in behavioural disorders (see Andrieux, abstract). Andrieux discloses that a knock-out of the STOP protein induces

synaptic defects that translate into severe behavioural disorders that are similar to those observed in schizoid diseases (see Andrieux, page 2352, col. 2, paragraph 2; page 2359, col. 2, end of paragraph 1; and page 2361, col.1, end of paragraph 2).

Contrary to the Office Action's assertions, Andrieux provides no indication of a possible connection between the polymerization state of microtubules and behavioral disorders. First, Andrieux teaches that a STOP protein deficiency does not create any anatomical disorders in the brain (see Andrieux, page 2352, col. 1, paragraph 3, and col. 2, paragraph 1), suggesting that the polymerization of the microtubules is not affected. Second, Andrieux teaches that the STOP protein may be involved in synaptic transmission processes via a role in the dynamic of microtubules or in their interaction with motors, which are functions that are not equivalent to stabilizing microtubules (see Andrieux, page 2360, col. 1, end of paragraph 1).

The only clear fact established by Andrieux is that a STOP protein deficiency results in synaptic transmission defects that appear to correlate with behavioral disorders (Andrieux, page 2352, col. 2, paragraph 2, page 2359, col. 2, end of paragraph 1 and page 2361, col.1, end of paragraph 2).

Andrieux does not teach nor suggest the existence of a possible link between microtubule destabilization and synaptic transmission defects. Therefore, there is no teaching or suggestion found in Andrieux that a lack of stabilization of the microtubules might be involved in schizoid diseases. Consequently, the teachings of Andrieux cannot be reasonably considered to suggest stabilization of microtubules as a mean to alleviate schizoid type diseases.

Nicolaou relates to epothilones for the treatment of a proliferative disease, especially cancers, by means of microtubules stabilizing effects (Nicolaou, page 1, paragraphs 3 and 4; page 2, paragraph 1; page 8, last paragraph; page 9, paragraph 3).

Nicolaou does not provide any teaching or suggestion that epothilones could be useful for improving synaptic transmission or that a defect in microtubules stabilization might be involved in synaptic transmission defects.

Also, Nicolaou teaches the use of epothilones for their cytotoxic activity on cells having excessive proliferating activity (Nicolaou, page 1, paragraphs 3 and 4, and page 2, paragraph 1). A skilled artisan would have had a prejudice against using cytotoxic compounds active on proliferating cells to treat a functional defect in non-proliferating neurons that have to be kept alive.

Accordingly, because neither Andrieux nor Nicolaou teaches that neuronal connectivity defects are attributable to microtubule instability, it would not have been obvious to one of skill in the art to use the compounds of Nicolaou to treat such conditions. Therefore, reconsideration and withdrawal of the rejection are respectfully requested.

B. Andrieux in view of End

The Office Action rejects claims 15 and 22 under 35 U.S.C. §103(a) over Andrieux in view of End et al., Fourth International Electronic Conference on Synthetic Organic Chemistry ("End"). Applicants respectfully traverse the rejection.

The teachings of Andrieux have been previously discussed.

End discloses the synthesis of epothilones for the use in the treatment of cancer by means of their cytotoxic effects (End, abstract and Table 1, pages 10 and 11). End does not provide any teaching or suggesting that epothilones could be useful for improving synaptic transmission or that a defect in microtubules stabilization might be involved in synaptic transmission defects.

For the same reasons discussed above with respect to Nicolaou, the teachings of End relating to cytotoxic compounds would have created a prejudice to the skilled artisan against the use of epothilones for the treatment of a disease involving a neuronal connectivity defect.

Also, a skilled artisan would have had a prejudice to use cytotoxic compounds active on proliferating cells taught by End to treat a functional defect in non proliferating neurons that have to be kept alive.

Therefore, a skilled artisan would not have, in any case, considered the teaching of End with regard to the teaching of Andrieux

For at least these reasons, claims 15 and 22 would not have been rendered obvious by Andrieux and End. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

IV. New Claim

By this Amendment, claim 25 is newly presented. Claim 25 depends from claim 1 and, thus, distinguishes over the applied reasons for at least the reasons discussed above. Examination and allowance of claim 25 are respectfully requested.

V. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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